

Mr. W. Johnson, New York

August 28, 1967

R. F. Shannon, Granville

Mr. R. J. McEvoy, Granville
Mr. L. X. Sadosky, New York
Central Files

R & D/MARKETING
ACTION PLANS, AUGUST

Re M. W. Couden to W. Johnson, August 14, 1967
W. Johnson to R. F. Shannon, August 23, 1967.

I don't know where Couden got the August 4, August 30 and August 31 dates listed in his August 14 memo for completion of various phases of the overall Kaylo program. Nevertheless, per your request, I will provide you with a brief status resume of the three Kaylo programs as listed in Couden's letter of August 14.

1. August 4, Kaylo - Results and Costs of Cement Modified Batches

As you know, all Kaylo product lines, including K10, K17 and K20, are in the process of being modified with Portland cement. Higher product strengths and job efficiencies and greater productivity at the plant have resulted from the use of cement. It was our hope to obtain the same improvements in the stress corrosion batch, unfortunately, we encountered an adverse reaction between Portland cement and the proprietary stress corrosion additive, which lowered product strengths.

The overall objective of the stress corrosion program during the past summer has been to upgrade strength and hardness of the stress corrosion product. This we have been able to do. We now have several modifications of the stress corrosion batch, which test harder and stronger than the batch approved by duPont in February and test marketed in May. No full scale plant trials of these new improved batch formulations have been made to date, because of the lack of a supply of 2399 proprietary additive. Reasons why this additive is not available will be discussed in the next section.

2. August 30, Kaylo - Limited Plant Production of SIS Pine and Block

All of the proprietary 2399 glass additive produced at Granville was used to prepare samples required for the test market program of last May and June.

Manufacturing has not to date made up their mind as to how and where they will produce 2399 glass additive. Toledo Engineering and Glass Technology came up with a \$550,000 plus cost estimate for a highly instrumented, computer controlled facility to produce flake glass, which would then be ground into powder suitable for use in Kaylo. This estimate was rejected by all concerned, including Manufacturing.

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Manufacture of 2399 glass at Kansas City and at Harrington have been rejected for reasons unknown to the writer. In August, Manufacturing decided to go to a chemical company (Philadelphia Quarts) to make the proprietary glass additive for us. Philadelphia Quarts prices per pound will be quite high and could adversely affect gross margins up to 10 points.

To sum up the stress corrosion program, we have a number of laboratory developed batch formulations, which we believe to be stronger and harder than the currently duPont approved batch. We are waiting for Manufacturing to decide how and where they will produce the additive and to make sufficient quantities available to us to verify our lab results in the plant. Our development program and limited plant production of SIS pipe and block cannot proceed until Manufacturing makes available 2399 proprietary glass additive to us in quantity.

3. August 31, Kaylo - Intensive Search For Commercially Available Fibers Or Modify A Glass Fiber Product That Is Suitable To Replace Chrysotile Asbestos. Project At Standstill. Messrs. Thomas and Ladd Determining Best Approach.

As you will note in my July report to Len Sadosky, per agreement with Marketing, priority was assigned to the stress corrosion program. I am sure you are also aware of the crisis at Berlin. Job efficiencies and productivity fell off drastically in June and July. We were requested by Manufacturing to find the causes. This has taken just about everyone's time in July and August. The writer has more or less lived at Berlin during this period. We are pleased to report the problems causing the 'crisis' at Berlin were identified and solved. The Plant Manager has reported job efficiencies have been upgraded 7 to 8 percent. Productivity has also been increased 20 plus percent (back where it was in the first quarter of this year).

I must admit, because of the agreement with Marketing on stress corrosion and the call for help by Manufacturing, the replacement of asbestos program has been delayed. However, it is not at a standstill. We have been able to produce Kaylo reinforced with cotton and coated glass fibers having strengths comparable to standard Kaylo. However, all of these samples have failed to date when subjected to the hot pipe test (long term cooking at maximum temperature). We have found a number of fibers which will survive the autoclave. None, however, perform like asbestos when used to reinforce Kaylo. Commercial fibers on the market today are not the answer. It is now my firm conviction a proprietary fiber will have to be developed for this application if we are to eliminate asbestos from Kaylo.

If more information is required, please don't hesitate to call either the writer or Pi Pfeifer. We will be glad to provide whatever information you need.

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R. F. Shannon